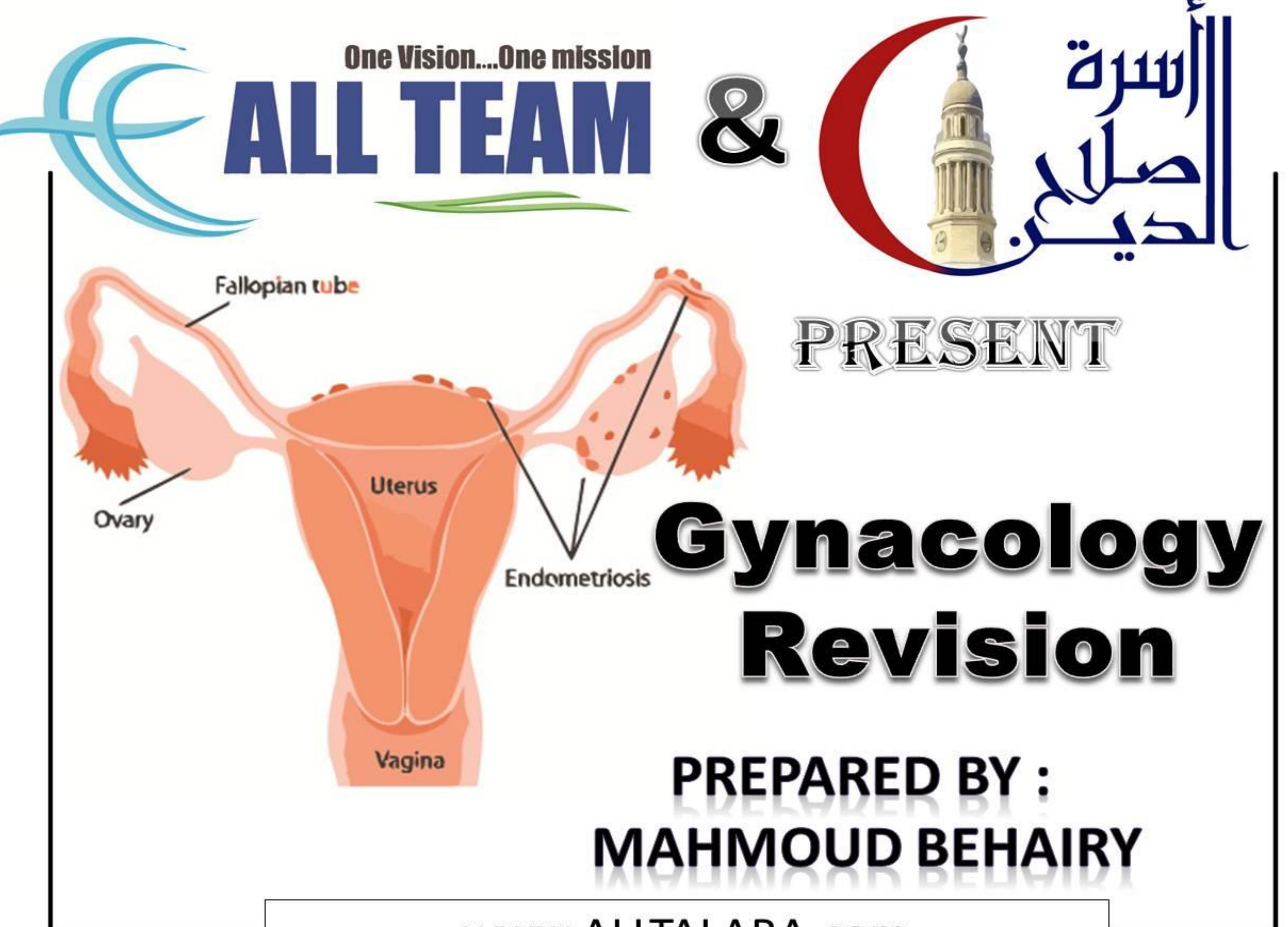


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Contraception

	IUD	OCP	Natural mmethods	Barrier methods
Mode of action	1- **Interfere with implanatation** : local foreign body inflammatory response – increased local PGL production –Cu inhibit carbonic anhydrase & alkaline phosphatase – progesterone induce atrophic endometrial changes 2- **Interfere withsperms** : inhibiting sperm migration – Cu produce toxic effect on on sperm - progertrone produce thick cervical mucus	1- **Estrogen** : inhibit ovulation via suppression of GNRH 2- **Progesterone** : Endometrial effect (atrophic changes) / cervical effect (thick mucus) / tubal (altered tubal motility) / ovarian (interfere with ovulation) 3- **Also** : excellent cycle control / prevent endometrial hyperplasia when combined	Natural methods does not need any facilities : **Coitus interr**: prevent semen deposition in vagina **Safe period** : avoiding intercourse in days of suspected ovulation **Prolonged lactation** : suppress GNRH by high level of prolactin	Prevent sperm egg
Types	• **Copper IUD** : Cu T 380 the most commonly used used for 4-6 years • **Copper + silver** (Nova T) silver is added to prevent cu degradation • **Progesterone releasing IUD** _ (Mirena) release levonorgesterol 35 ug/d	1- **Combined :** contain estrogen 30 ug and gestagen in one phase , two or three tsken for 21 day then 7 days pill free period then started In day 3-4 of menses 2- **Progestogen only** : taken continuously irrespective of cycle for women contraindicated to take COC	1- **coitus interruptus** : 2- The safe period 3- **Prolonged lactation**	1- **Male & female condom** : prevent STDs 2- **Female diaphragm** |& cervical cap : inserted 6 hours before intercourse 3- **Spermicides** (nonoxynol 9) : appliaed 30 min before & failure rate 30 HWY if alone
Advantages	1- Single choice withlong term protection 2- Doesnot affexct lactation or interfere with sexual intercourse 3- Very low failure rate < 0.5 HWY	- Most effective , **failure rate 0.1-1HMY** - excellent cycle control - no effect on fertility or sexual intercourse	Simple – readily accessible for no cost -	Easy to initiate & terminate / nosystemic side effects / no effect on future fertility or lactation / some may prevent transmission of STDs
Disavantages	1-**Vaginal bleeding** : psot insertion bleeding (mild spontaneously stop few days after – profuse indicate either pathology , perforation , or contractions of explusions) – Menorrhagia (due to increase PGL _ increased fibrinoltyic activity / if mild treated by antifibrinolytics & NSAID / if sever exclude any organic pathology then you canremove and use progeertrone release to induce atrophy) 2-**Pelvic pain** : during insertion (from forcible cervical dilatation – perforation – abmormal position) acute abdominal (in situ → abortion – PID // missed →perforation) 3-**Infection** : either chronic cervicitis or PID both increased with IUD in amy of them treat infection then remove IUD 4-**Vag discharge** : watery from congestion/mucopurulent in chronic cervicitis 5-**Expulsion** : due to contractions during menses or misplacement at time of insertion / it can be complete or incomplete – both removed & reinserted 6-**Perforation** : mostly at time of insertion → sharp stabbing pain – persistent vaginal bleeding 7-**Pregnancy on IUD** : if threads visible removed / if not visisble left in situ with more risk for septic abortion 8-**Missed IUD** : either threads indrawn – completely expelled or missed in peritoneal cavity in perforation	1- **Spotting** : due to inappropriate content of pills → shift for higher dose in the next cycle 2- **Breakthrough bleeding** : intermenstrual 3- **Hypomenorrhea** & amenorrhea 4- **Thromboembolic disorders** 5- **Hypertension** & DM 6- Impairment of liver functions 7- **Depress lactation** 8- Nausea & vomting ? weight gain 9- Irritability & depressive disorders 10- **Migraine headache** 11- **Acne worsen & chloasma** resemble that of pregnancy 12- Decreased libido & breast engorgement 13- Vaginal discharge 14- Increased risk of cervical & breast cancer	1- **Coitus** : pre-ejaculatory fluid may contain sperms 2- **In safe period** : suitable only for intellectual couples – need regular cycles 3- **In prlonged lactation** : continuation of ovulation is unpredictable may be resumed at any time	Difficult to use consistently and correctly / may interrupt sexual activity / some reauire partener participation / less effective than other methods
Evaluation	• **Reliable** with low failure rate of < 0.5 HWY/ require little motivation as it is single choice / no need for educated user / good for national programs in developing countries	**The most effective method** but needs daily use it also : ttt DUB / postpone next cycle / ↓ risk of ovarian & endometrial cancer	Failure rate **is high** & efficacy is low	**Fairly reliable** with failure rate < 10 HWY
Contraindications	1- **Pregnancy** & undiagnosed vaginal bleeding 2- **Uterine** anomiles & uterine cavity pathology due to lack of proper insertion 3- **History of PID (** may be aggravated) / or ectopic pregnancy (risk increased)	**Thrombophelibitis** & DVT history / coronary heart & stroke / liver disease & liver malignancy / **abnormal genital bleeding** / suspected carcinoma of breast	No contraindications	No contraindications except spermicidals may cause allergic vaginitis in some women

Premalignant lesions

	Endometrial hyperplasia	CIN	VAIN	VIN
Risk factors	Prolonged unopposed effect of estrogen as in : obesity –PCOS- HRT –infertility – nulliparity – late menopause	1. Early 1st sexual intercourse 2. Multiple parteners 3. HPV – HSV infections 4. Poor hygiene 5. Smoking 6. immunosuppression	Uncommon premalignant lesion in vagina may be associated with CIN VIN	They are 2 types : - Squamous Vin - Non Squamous (paget disease and melanoma)
Histology & Types	- Simple hyperplasia 1% - Complex hyper plasiawithioutatspia 3% - Simple atypical hyper plasia 8% - Complex atypical HP 25%	- CIN I : basal 1/3 dysplastic (LSILs) - CIN II : basal ½ (HSILs) - CIN III : full thickness without invasion of BM		Squamous type has grsdes as CIN I & II &III
Clinical presentation	➢ Abnormal uterine bleeding especially perimenaupausal ➢ Normal uterus or enlarged – may be myomata – or ovarian enlargement	Nearly asymptomatic and discovered accidently during regular check up		➢ 1/3 asympromatic but most presents with pruritis vulvae ➢ Signs : multicentric multifocal lesion with variable color white – black – red
Invetigations	1. TVS : abnormal endometrial thickening 2. endometrila biopsy is the gold standard either by pipelle or full D&C with anaesthia	➢ **Pap smear** : annually for high risk / every 3 years for females > 30 Y with 3 –ve samples / discontinued for > 70 ➢ **Coloposcopy directed biopsy** from acetowhite areas or schiller iodine –ve areas ➢ **Endocervical curettage** when abnormal areas not visualized	- **Pap smear :** abnormal vaginal epithelial cells - **Coloposcoy guided biopsy :**	Pain vulva with 5 % acetic acid and biopsy aceto-white areas
Trreatmant	1. cyclic oral progestin for 3-6 M : for patients without atypia 2. Hysterectomy for : failed hormonal therapy – complex atypical – postmenopausal patients	1- **Low grade lesions CIN I** : a. treat infection and reapt smear after 12 weeks b. if progress to high : destruction by ablation – cauterization or cryotherapy 2- **High grade lesions II & III** : Excision by a. Cold knife conization b. Loop electrosurgical excision procedure (LEEP) c. TAH in older patients	1- Local destruction ablation 2- Surgical excision 3- Topical chemotherapy	➢ Spontaneous regression ➢ Topical steroids ➢ Excisional biopsy if small lesion ➢ Skinning vulvectomy if wide lesion ➢ Close observation aftr manage

لا تغتر بعلمك فإنك.....مهما بلغت من العلم جاهل ولكن اشكر الاله الذي ....بفضله بلغت من العلم منزل

	UTERINE CARCINOMA	CHORIOCARCINOMA	CERVICAL CANCER
Risk factors	Prolonged unopposed effect of estrogen as in : obesity –PCOS- HRT –infertility –nulliparity – late menopause -estrogen producigovaarian tumors –genetic predisposition	Molar pregnancies – abortion – multiple pregnancies	Early 1st sexual intercourse / Multiple parteners / HPV – HSV infections / Poor hygiene / Smoking / immunosuppression
Incidence	The most common gynecologic malignancy mainly in postmenopausal women from **<u>55 – 70 years</u>**	60% follow vesicular mole – 25% abortion - < 15% pregnancy – rarely nongestational	Decline in the last 3 decades commonly between 45-55 years
Patholo Gy – **Gross**	1-**<u>localize</u>**d type : nodule or polyp infundus or cornu 2-**<u>diffus</u>**e : diffuse endometrial thickening or multiple polyps	Friable hemorrhagic nodule arise from body invade endo and myometrium – ovaries shows multiple **<u>theca lutein cysts</u>**	Friable necrotic mass – deep ulcer – indurated nodule if SCC // if adenocarcinoma can give cervix barrel shaped appearance
Patholo Gy – **Microscopi**	Adenocarcinoma – adenoacanthoma –adenosquamous – 1ry SCC – papillary serous carcinoma	Anaplastic cyto and sycitiotrophoblast with He and necrosis chorionic villi are absent	1-squamous cell carcinoma of ectocervix seen at portiovaginalis 2- adenocarcinoma of endocervix
Grading	- Grade 1 : <5% solid parts - grade II : 5-50 % solid parts - Grade III : > 50% solid parts with poor prognosis		-**<u>grade 1</u>** : well differentiated cells - **<u>grade 2</u>** : moderate differentiation **<u>- grade 3</u>** : poor
Spread	1- **<u>Direct</u>** : to the rest of the endometrium / invasion to the myometrium 2- **<u>Lymphatic</u>** : fundus to para-aortic LN / cornu to inguinal / isthmus to paracervical 3- **<u>Vascular</u>** : late to intrapelvic organs or distant ones	It is famous for early and wide spread **<u>blood borne</u>** metastasis to lungs –vagina liver CNS / also direct spread to myometrium	1- **<u>Direct</u>** :to body of uterus – vagina – parametium - bladder –rectum 2- **<u>Lymphatic</u>** : paracervical –obturatoexternal/ internal / common iliac – para-aortic LNs
Clinc al presentat ion – **Symptoms**	1-podtmenopausal bleeding is the commonest 2- Metrorrhagia: profuse –persistent and recurrent even after TTT 3- offensive discharge and menstrual cramps – deep pelvic pain	**<u>Persistent vaginal bleeding</u>**> 6 weeks after molar pregnancy or abortion or term pregnancy	1-**<u>contact bleeding</u>** is the commonest 2- **<u>metrorrhagi</u>**a and postmenopausal bleeding 3- vaginal **<u>discharg</u>**e 4- deep **<u>pelvic pain</u>** or loin
Clinc al presentat ion – **Signs**	✓**<u>Bimanual examinaaiton</u>** : symmetrically enlarged uterus may be adenexal mass felt ✓**<u>Speculum exam</u>** : toexclude cervical involvement or nodule or ulceration of cervix	**<u>Bimanual</u>** : symmetrically enlarged uterus soft in consistency / soft hemorrhagic nodule in vagina if metastasis to it occur	1-**<u>Genera</u>**l : urinary manifestations in uretricobst 2- **<u>speculum</u>** : friavle mass or ulcer if late obliterate vaginal fornices 3- **<u>P V</u>** : bleeds profusely on touch – later cervix become fixed and tender 4-**<u>Bimanual</u>** : uterus normal except if pyometra 5-**<u>PR :</u>**parametrialextention&uterosacralinvovle
Investigations	1- **<u>TVS :</u>** show abnormal endometrial thickening especially memoupausal if > 5mm for biopsy 2- **<u>Outpatient endometrial biopsy</u>** : may miss the malignancy if localized 3- **<u>FC</u>** : the gold standered dividing the sample into (endocervical –isthmus –ant & post walls – fundus-cornu)	Elevated levels **<u>of B-HCG</u>** after evacuation ofmolar **<u>TVS :</u>** mass extend to myometrium – bilateral theca lutein cysts / low pulsatilty index by **<u>Dopple</u>**r **<u>MRI</u>** for myometrial invasion / **<u>CT</u>** for metastasis / **<u>D& C</u>** not essential	1-**<u>Knife biopsy</u>** : from suscpicious lesion if seen 2-c**<u>oloposcopy</u>** guided biopsy if no lesion seen 3-**<u>cone biopsy</u>** : if pap +ve for malignant cells and extent of lesion ot seen by knife –laser –LEEP 4-**<u>FC</u>** ": from endocervix and endometerium
Staging	✓ **<u>Stage I</u>** : in corpus : A) in endometrium / B) <inner 1/2 of myometrium C) > inner 1/2 of myometrium ✓ **<u>Stage II</u>** : to cervix but not outside uterus : A) in cervical glands B) in cervical stroma ✓ **<u>Stage III</u>** : outside uterus but not the true pelvis : A) serosa or ovaries or peritoneum B) upper vagina C) LNs ✓ **<u>Stage IV</u>** : other organs : A) bladder or rectum B) distant metastasis	1- **<u>Non metastatic</u>**chorio 2- **<u>Metastatic</u>**chorio a. Low risk b. High risk	**<u>Stage I :</u>** in cervix : A1)invasion depth <5mm & width <7 A2) >5&7 B) to body **<u>Stage II</u>** : A) t oupper 2/3 of vagin a B) to parametrium **<u>Stage III</u>** : A) lower 1/3 of vagina B) to lateral pelvic wall **<u>Stage IV</u>** : a) bladder & rectum B) others
Management	1-**<u>Stage I</u>** : a & b : TAH-BSO / c : TAH-BSO followed by vaginal cuff radiotherapy and if grade 3 2-**<u>Stage II</u>** : weritheum operation / Radio for unfit for surgery 3-**<u>Stage III & IV</u>** : palliative radio and chemotherapy 4-**<u>Radiotherapy</u>** used are : intracavitry in uterus & vagina in III & IV and in II not fit for surgery // Brachytherapy : cylinders in vagina in Ic and grsde 3 /// EBRT ; to ttt LN extention 5-**<u>Chemotherapy</u>** : either hormonal (progestagen) for well-differentiated tumors with estrogen receptors or non hormonal (cisplatin 0paclitexel) for advanced EC	Chemotherapt is indicated in all cases either : - **<u>Single agent</u>** : methotrexate is drg of choice for non metastatic and metastic low risk - **<u>Combination</u>** : MTX + EToposide + Actinomycin D for mwtastatic high risk and cases resistant to MTX alone - **<u>Surgical (TAH)</u>** : elderly high risk Pts / resistant to combination therapy / complicated by sever HGE or perforation --- the surgery preceded and followed by chemotherapy	1- **<u>Stage I a1</u>** : TAH-BSO alone or conization 2- **<u>stage I a2</u>**& b : weithem's operation 3- **<u>SatgeIIa</u>** : surgery is equal to radio 4- **<u>Stage IIb</u>** : radio is the 1st line of TTT 5- Stage III & IV : radio and chemo as palliative 6- **<u>Weirthum</u>**si (TAH-BSO +pelvic adenectomy + removal of parametrium and upper 3 cm of vagina) 7- **<u>Radiotherapy</u>** : either primary iib by EBRT or intracavitary or brachy /// or adjuvant
prognosis	Depends on : stage –type – grade – myometrila invasion – LN involvement - **<u>Stage 1</u>** (G1-2) : 85% 5 year survival rate after surgery alone - Grade 3 has poorer prognosis - More depth in endometrium the poorer the progniosis - +ve peritoneal wash convert stage 1 to 3		**<u>IA</u>** ;cure rate 95 % **<u>Ib :</u>**5 year survival rate 85 % **<u>II :</u>** 5 year survival is 50% Iii & IV : 25 % and % % respectively

كلما ادبني الدهر اراني نقص عقلي ***واذا مازددت علما زادني علما بجهلي

Non Neoplastic ovarian cysts

	Follicullar cyst	Corpus luteum cyst	Theca lutein cyst	Endometriotic cyst	Inflammatory
Incidence	**The commonest** of all functional cysts mainly occurraing at childbearing period &perimenopause	**2nd common** – childbearing and early pregnancy)	Incease lately due to increase in use of induction of oulation	Not uncommon especially with infertility & pelvic endometriosis	➢ Tubo-ovarian cyst or tubo-ovarian abscess ➢ Infection reach ovary by lymphatics or near by infected organ ➢ Bilateral ➢ Pt come with history of : ○ Recent delivary or abortion ○ Recent surgical pelvic surger y ○ IUD insertion ➢ Treatment :parentral antibiotics regimen (ofloxacin 400mg Iv / 12 H + metronidazole 500 mg IV / 12 H)
Aetiolgy	1-Cystic overdistention of an atretic follicle 2-Dominant Graffian failed to rupture 3-So it is commoanly encountered in Metropathiahemorrhagica& PCOS& fibroids – endometriosis	Excessive hemorrhage in corpus luteum in stage of vascularization	**OVARIAN hyperstimulation** by 1- **Natural HCG** : vesicular mole – choriocarcinoma – mulifetalpreg) 2- **Iatrogeni**c : HMG – HCG injections for induction	Hemorrhagic cysts of ovary lined by endometrial tissue (glands &stroma) blood accumulate during menses and serous content absorbed leaving RBC's give **chochalte**appearance	
Fate	Spontaneous regression and complete resolution within few weeks unless complicated by rupture – hemorrhage – torsion	The same	Spontaneous **regressio**n and complete resolution when HCG falls		
Pathology	❀Unilateral – unilocular single (3-7 cm) contain clear fluid ❀Thin wall lined by **granulose cells** ❀Secrete **estrogen** causing menstrual disturbances	❀ Unilateral – unilocular single (3-7 cm) contain blood ❀ Thin wall lined by **luteinized granuloza cells** ❀ Secrete **progesterone** causing menstrual disturbances	- Multiple –bilateral –bluish – thin walled – contain clear fluid – may reach > 20 cm - Linedc by **luteinzed theca cells**	Thick wall – surrounded by dense adhesions (from reapted leakage of cyst) so rarely undergo torsion	**Germinal inclusion** ➢ Microscopic cyst s from invagination of germinal epithelium in the substance of the ovary ➢ Considerd forerunners of epithelial cancers
Symptoms	❀Asymptomatic ❀Menstrual disturbance (delayed menses – irregular bleeding) ❀Pain if large –rapidly growing – complicated	❀ **Asymptomatic** in the majority ❀ **Menstrua**l disturbance (delayed menses – irregular bleeding) ❀ **Acute lower abdominal pain** if complicated	➢ **History** of vesicular mole or induction of ovulation ➢ Lower abdominal & pelvic **pain**	History of **infertility** especially if pelvic endometriosis – **Dysmenorhea**& chronic pelvic pain increase at time of menses	
Signs	1-Abdominal examination : tenderness at one ovarian point 2-Bimanual : tenderness at one vaginal fornices	Same signs	➢ If **larg**e can be felt suprapupically ➢ If **small** can be felt on PV at vaginal fornices with pain &tendernes on palpation	**Bimamual Exam** : adenexal tenderness & fullness felt at vaginal fornices If lage can be felt abdominally	
Investigations	**TVS-TAS** : is the gold standard show the character s of the cyst with no septa or internal echos	**TVS :** cyst is echolucent filled with blood that appear as fine particlesin clear fluid - **CBC – HCG** for DD	**TVS** : echolucent thin wall cyst filled clear fluid + high HCG	- **TAS-TVS** - **Laproscopy**especially If inferilte - **Ca 125** level is elevated	
DD	1-**Simple serous cystadenoma** (lined by low columnar epithrlium) 2-**Iliac fossa pain** (appendicitis – uretric stones)	1- **Abortion &metropathia** same in bleeding 2- **Follicular cyst**& simple serous cyst 3- **Pain** in rt iliac fossa as ectopic – appendicitis			
Management	• **Conservative** till resolution by follow up by reapted US • **Combined OCP** accelerate resolution • **Ovarian cystectomy** (if ruptured or persistent – or increase in size (to exclude malignancy) conseve ovary	• **Conservat**ive till resolution by follow up by reapted US • **Ovarian cystectomy** (if ruptured or persistent – or increase in size (to exclude malignancy) conseve ovary	➢ **Expectant manage** : removal of source of HCG ➢ **Laparotomy** is avoided except If complicated	➢ **Very small** : IM depot injections of GnRH agonists ➢ **Small endometrioma< 3 cm** : aspirated ,irrigated and wall vaporized laproscopacally ➢ **Large 3-5 cm** wall removed laparoscopcally&>5 cm by laparotomy	

قال رسول الله صلى الله عليه وسلم : إن الله يحب العبد المحترف

Ovarian Neoplasms

			Incidence	Gross & cut section	Microscopic	Complications	Hormonal activity
Benign tumors	Epithelial	**Serous cystadenoma**	Commonest benign ovarian neoplasm (10-15 % ovary T)	Simple type : unilocular thin walled – thin clear serous fluid /// the papillary type contain papillary growths	Lined by cuboidal cells ciliated & non ciliatd (tubal epithelium)	Simple : lowest malignant potential but papillary highest malignant (50%)	No hormonal activity
		Mucinouscystadenoma	2^{nd} common benign ovarian neoplasm	Unilateral – bluish colo r – multilocular – contain thick mucin material – reach huge sizes (may fill abdomen)	Lined by tall columnar epithet;ium rich in golat cells similar to endocervical epithelium	Very low malignant potentiality (< 5%) Pseudomyxomaperitonii	No Known hormonal activity
		Brenner tumor	Rare (1-2 %) of ovarian neoplasm	Solid – small to oderate – incidental discovery	Epithelial cell nests with coffee bean nucleus	May be brderlin or malignant	Occasionally secrete estrogen causin vaginal bleeding
	Germ cell	**Bening cystic teratoma**	The commonest germ cell tumor (50% of ovary neoplasm in females < 20)	Bilateral – moderate size – has long pedicle // mostly unilocular containing a mamilla& variable contents (hair – skin- cartilage in sebeseous material)	Lined by stratified squamous epithelium with sebaceous glands	Very low malignant potentiality < 1 % (squamous cell carcinoma)	
		Stumoovarii	Rare	Monodermalteratom a	Hormonally active thyroid tissue	5-10 % develop into cancer	5% only capable of producing thyroid causing symptoms
		Gonadoblastoma	Rare	Benign solid	Germ cells mixed with grnulosa&sertoli	50 % predispose to dysgerminoma	
	sex cord	**Fibroma**	Rare tumor	Solid –unilateral – long pedicle – lobulated	Cells of fibroblasts	Meig's syndrome	
		Thecoma	Rare in postmenopausal	Solid unilateral	Cells resemble theca interna cells	Endometrial hyperplasia	Many produce estrogen
malignant tumors	Epithelial	**Serous cystadenocarcinoma**	Epithelial ovarian cancers are the commonest malignant ovarian neoplasms (60-70 % ovarian cancers) – older age > 50 – poor prognosis / has tumor marker CA125 – chemosensitive	Bilateral 50 % - has solid & cystic components with extensive hemorrhage & necrosis	Adenocarcinoma of serous type – Psammoma bodies are common	**Risk factors for epithelial cancers** : Increasing age (mean age is 59) Nulliparity& infertility White race Prior history of endometrial & breastcancer or family history	
		Mucinous cystadenocarcinom		Bilateral in 20% - multilocular – contain mucinous fluid – huge size	Adenocarcinoma of mucinous type well or moderate or poorly differentiated		
		Endometriod tumors		In 30 % cases coexsistant 2^{nd} 1ry in endometriu	Adenocarainoma		
		Brder line epithelial tumors		Low malignat – could be serous or mucinous	Cellular features of malignancy but no invasion of stroma		
	Germ cell	**Dysgerminoma**	Commonest malignant germ cell tumor 1-3 % – in young females 10-30 year	Solid –small to moderate –bilateral in 10 % - grayish with lobulated surface – characterized by early lymphatic spread	Germ cells arranged in alveoli separated by fibrous septa- lymphocytic infiltration common	**Features of malignant germ cell tumors** : Affect young females Has tumor markers Associated with abnormal gonads Radiosensitive and chemo Conservative surgey can be done (low malignant tumors)	5% o cases occur in abnormal gonads / LDH considerd tumor marker
		Endodermal sinus T	2^{nd} common germ cell only 1% of ovarian cancers – young women (19y)	Small solid tumor unilateral	Shiller –duval bodies (cystic spaces inside which glomerulus like structure		Serum AFP used as tumor marker / teratoma are found in 20 %
		Choriocarcinoma	Very rare	Unilateral solid tumor	Malignant cyto&syncytio		Secrete HCG – cause psudo puberty
		Malignant teratoma	Rare in children under 15 Y	Unilateral solid tmor	Immature neural , epithelial &mesenchymal tissue		Secrete hcg – AFP
	sex cord	**Granulose cell T**	5% of ovarian malignancies with good prognosis	Unilateral solid yellowish	Call-exner bodies are pathognomenic in 50% cases (spaces surrounded by granulose cells in rosette shape		75% scrte estrogen others secrete inhibin – 50 % are associated with EH – 5% with endometrial carcinoma
		Sertolileydg-ig cell T	Rarest of all ovarian tumors <0.2% / low grade malignancy – in young females (20-30)	Unilateral solid small or moderate in size	Sertoli or leydigcels accompanied by stroma derived fibroblasts		Androgenic tumors in 75% will cause defeminization then virilizing effect // rarely some produce estrogen

اذاغامرت في شرف مروم***فلا تقنع بما دون النجوم

فطعم الموت في أمر حقير***كطعم الموت في أمر عظيم

Ovarian Neoplasms 2

<table>
<tr><th></th><th>Benign ovarian Neoplasm</th><th>Malignant ovarian Neoplasm</th></tr>
<tr><td>Symptoms</td><td>1- <u>Aymptomatic</u> : discovered only accidentally during US
2- <u>Abdominal swelling</u> felt by patient if large tumor
3- <u>Lower abdominal pain</u> either acute if complicared or chronic dullaching pain in large sized tumors as Mucinous cystadenoma
4- <u>Pressure symproms</u> : if huge or incarcerated : either abdominal (epigastric pain – dyspnea) or pevic (frequency or retention)
5- <u>Menstrual disorders</u> : only if functional as theca cell tumor</td><td>1- <u>Aymptomatic</u>early
2- Abdominal <u>swelling</u>
3- Dull aching pelvic<u> pain</u>&haeaviness
4- P<u>ressure</u> symptoms : dyspepsia –indigestion – frequency - constipation
5- <u>DUB</u> : if estrogen producing</td></tr>
<tr><td>Signs</td><td>1- <u>Small tumor :</u> only detected by bimanual examination as a mass rounded smooth cystic mobile separate from uterus
2- <u>Large tumor</u> : by abdominal examination :
a. Inspection : symmetrical abdominal enlargement
b. Palpation : abdominal mass smooth or lobulated tense and commonly mobile from above downwards
c. Percussion : central dullness –resonant flanks except if ascites associated (shifting dullnesss
3- <u>Ovarian cachexia</u> could develop in rapidly growing tumors</td><td><u>Feature suggesting malignancy :</u>
1- <u>History</u> : extremes of age –rapid wt loss – rapid growth of tumor – family history – feminizing &virilizing effects
2- <u>General examination</u> : Malignant cachexia-pleural effussio n-associated breast mass –unilateral LL edema –palpable supraclavicular LNs
3- <u>Abdominal ;</u>skin show peaud'orange – tumor solid fixed bilateral –ascites
4- <u>Pelvic :</u>nodules in oduguls pouch –bilater\l soildadenexal mass –frozen pelvis
5- <u>At laparotomy</u> : ascites – nodules on omentum – peritoneal nodules – bilaterality fixation invasion of capsule –variable consistency – papillae & adhesions</td></tr>
<tr><td>Investigations</td><td>1- <u>U/S</u> : help in
a. Diagnose ovarian origin –
b. differeniate benign from malignant (hetrogenous echogenicity – low resistance Doppler – ascites)
c. Laterality of tmor and size consistency /uni or multilocular
2- <u>Tumor markers</u> : Ca125 in epithelial cancer & CA19-19 with mucinous carcinoma
3- <u>Laproscopy</u> : to differentiate ovarian cysts from tubo-ovarian cystic masses /// solid ovarian fibroma from pedunculated SSM
4- I<u>VP </u>: to delinate course of ureter</td><td>- <u>US</u> : TAS-TVS is the gold standard - <u>chest xray</u> : pleural effusion &secondaries
- X-<u>ray abdomen</u> calcification - <u>TC-MRI</u> : spread to liver + LNs
- <u>Barium meal & enema</u> : for 1ry cancer colon or stomach - <u>GI endoscopy</u> : same
- <u>IVP</u> : course of ureter & backpressure on kidney
- P<u>aracentesis</u> : for cytologic examination
- <u>Endometrial curettage</u> : in cases of DUB
- <u>Tumor markers</u> : CA125 in epithelial cancers – HCG in choriocarcinoma – LDH in dysgerminoma – alpha fetoprotein in EST</td></tr>
<tr><td>Complications / staging</td><td><table>
<tr><th></th><th>Torsion</th><th>HGE</th><th>Infection</th><th>Rupture</th><th>incarceration</th><th>Malignant</th></tr>
<tr><td><u>Predis-posing</u></td><td>Moderate size + long pedicle / free mobility / pregnant &purepurium</td><td>Torsion / trauma / during pregnancy</td><td>Puerperium / infected organ /</td><td>Torsion or Hge / trauma during labor or rough PV</td><td>Large size imapacted in douglas pouch</td><td>Higher in solid than cystic</td></tr>
<tr><td><u>C/P</u></td><td>Acute abdomen</td><td>Acute abdomen</td><td>General P of infection</td><td>Acute abdomen -</td><td>Pressure symptoms</td><td></td></tr>
<tr><td><u>TTT</u></td><td>Ovriotomy in absence of healthy tissue / or ovarian cystectomy</td><td>Shock manage + Ovriotom y</td><td>Antibiotic s – oviotomy via laparotomy</td><td>Sedatives – resuscitation – ovariotomy – peritoneal lavage</td><td>Ovariotomy or cystectomy</td><td></td></tr>
</table></td><td>➢ <u>Stage I</u> : confined to ovary : (a) one ovary wit hintact capsule –no tumor deposits on external surface – no ascites (b) two ovaries with same characters (c) Ia or Ib with Ascites -+ve peritoneal wash – ruptured capsule – deposits on external surface
➢ <u>Stage II :</u> pelvic extention : (a) to uterus & tube (B) other pelvic tissues (c) IIa or IIb + previous criteria in Ic
➢ <u>Stage III</u> : with peritoneal implants – or +ve retroperitoneal or inguinal nodes : (a) grossly limited to pelvis with –ve nodes \9 microscopic implants) - (b) implants <2 cm on abdominal peritoneal surface nodes –ve (c) implants >2 cm nodes +ve
➢ <u>Stage IV</u> : distant metastasis : liver lung etc …
➢ Staging here can only reached surgically by exploratory Laparotomy</td></tr>
<tr><td>Mangemnet</td><td>1- <u>Young female :</u>
a. <u>Small cyst</u> : ovarian cystectomy (enculation with ovarian preservation) laparoscopacally except dermoid cyst removed by lapparotomy due to risk of dissemination of irritant contents
b. <u>Large cyst</u> : Oophorectomy (removal of cyst together with the ovary) by laparotomy due to risk of dissemination – malignancy – absence of heaklthy ovarian tissue
2- <u>Older female</u>non diserous for further fertility : TAH-BSO to prevent against develop of ovarian cancer</td><td>➢ <u>TAH-BSO and infracolicomentectomy</u> : standard TTT for stages I-IIa completed by peritoneal wash & LN sampling
➢ <u>Unilateralsalpino</u>-<u>oophorectomy</u> only in Ia + young patient + low malignant tumor (malignant germ cells – malignant sex cord – border line epithelial)
➢ <u>Initialdebulking :</u> (TAH-BSO + omentectomy + excision of pelvic masses & peritoneal deposits > 1-2 cm + bowel resection if needed for rest of stages from IIb
➢ <u>Interval Debulking</u> : chemotherapy prior to debulking to reduce size of tumor
➢ <u>2nd look surgery</u> : to asses residual tumor in abdominal cavity after operation & chemo / done only these days for patient with –ve imaging and rising tumor markers
- <u>Chemotherapy</u> : in stage I-IIa used only if +ve peritoneal or ruptured capsule – in stages II-IV used either as adjuvant after surgery if resectable tumor – or palliative
- <u>Radiotherapy</u> : little place in epithelial – canbe used as adjuvant in germ cell tumors</td></tr>
<tr><td>Prognosis</td><td></td><td>• <u>Factors affect prognosis</u> : histopathologic type (epithelial worest) – histologic grading (well or poor differentiation) – staging – response of tumor to adjuvant therapy
• <u>5 year survival rate</u> is : 90% in stage I - 80% in stage II – 15-20 % in stage III – 5% in stage IV</td></tr>
</table>

إنما تنجح الفكرة إذا قوي الإيمان بها ، وتوفر الإخلاص في سبيلها ، وازدادت الحماسة لها ، ووجد الاستعداد الذي يحمل على التضحية والعمل لتحقيقها . وتكاد تكون هذه الأركان الأربعة : الإيمان، والإخلاص ، والحماسة ، والعمل من خصائص الشباب . لان أساس الإيمان القلب الذكي ، وأساس الإخلاص الفؤاد النقي ، وأساس الحماسة الشعور القوي ، وأساس العمل العزم الفتي ، وهذه كلها لا تكون إلا للشباب. ومن هنا كان الشباب قديما و حديثا في كل أمة عماد نهضتها ، وفي كل نهضة سر قوتها ، وفي كل فكرة حامل رايتها. (الإمام الشهيد حسن البنا)

Vaginitis

	Bacterial vaginosis	Candida vaginitis	Trichomonas vaginalis	Childhood vaginitis	Atrophic vaginitis
Incidence	the commonest cause of bacterial vaginal infection – 50% of women attending for STDs	30% of cases with vulvovaginitis – considered STD	3rd most common cause of vaginitis (25 % of cases) – multifocal infction (STD)	Rare but occur due (weak epithelium – low vaginal PH)	Occur in postmenopausal women – breast feeding women
Risk factors	2nd trimester abortion – premature labour - PID – endometritis	1- changes in PH to more acidic pregnancy – OCP- spermicidal – abuse of douching 2- ↓ host immunity (Daibetes) 3- Long use of antibiotics		1- Poor hygiene 2- Foreign body insertion 3- Pinworms (entrobiusvermicularis)	- Loss thickness of vaginal epithelium - Decreased estrogen levels so low glycogen content and alkaline PH
Causative organism	Gardenerllavaginalis– Bacteroid species – mycoplasma hominis (unexplained increase in vaginal anerobes due to decrease in vaginal PH) – not sexually transmitted	- Candida albicans : normal inhabitant of bowel – peri-anal region – 30% of female vagina - Non albicans : candida tropicalis – torulopsisglabrata 20% cases resistant to usual TTT	Trichomomnasvaginalis : flagellated protozoon larger than leucocytes	E-coli – streptococci –gonococci – staph	- Leucorrhea – pruritis – vaginal burning - By speculum : atrophic vagina – inflamed walls – discharge
Clinical picture	50% asymptomatic – the main symptom : vaginal discharge (profuse – non irritant – malodorous – thin- yellowish white or whitishadherent to vaginal walls- fishy amine smell)	- Intense pruritis – vaginal burning (dyspareunia) - vaginal discharge (cottage cheese dysuria - Vulva red swollen /vagina : patches of adherent cheesy discharge	1- 25-50 % are asypmtomatic 2- Vaginal discharge : copious – frothy offensive 3- Pruritis – vulvitis 4- Strawberry spots : on speculum examination (punctate hemorrhage on vagina – cervix)	- Vanial discharge : purulent foul smell - Pruritisvulcae - Dysuria	
Investigations	1-saline wet mount preparation : clue cells (epithetlial cells coated by bacteriaobscuring its borders) 2-10% KOH : on fresh sample of vaginal secretions give fishy odour 3-PH : > 4.5	1- Wet mount examination with saline & 10% KOH : hyphae – pseudohyphae with budding yeasts 2- PH : < 4.5 3- Swab& culture not necessary	▪ Saline wet mount preparation : numerous leucocytes – flagellated trichomonads ▪ PH : weak acidic (5- 6) ▪ PAP smear : to exclude cervical neoplasia ▪ Culture rarely	1- Cutured sensitivityofdischarge 2- US or X-ray t odetect foreign body 3- Investigations for entrobius – oxyuris	Infection not usually identified by wet mount preparation Vaginal PH is low < 4.5
Treatment	Systemic : Metronidazole 500 mg oral twice for 7 days / clindamycin same dose Local : Metronidazole gel 0.75% or clindamycin cream 2% one full applicator intravaginally once for 5 days During Pregnancy : clindamycin used but metronidazole only from 2nd trimester	1-Intravaginal antifungal : clotrimazole 1% cream (5g - for 7 days) – Nystatin 100,000 unit vaginal tab for 14 day 2-oral : fluconazole single oral dose 150mg / ketoconazole 200 mg twice for 5 days for recurrent ➢ During pregnancy : intravaginaal TTT is safer ➢ Reecurrent cases : due to (non-albicans strains – DM – infected male partener)	- Metronidazole either 1g single oral dose – or 500 mg twice for 7 days - Intravaginal therapy isnot so effective (multifocal) - During Pregnancy : metro-nidazole from 2nd trimester - Male patener should be treated - Recurrent : ssearch for other STDs	1- Antiseptics 2- Systemic antibitics 3- Treatment of worms 4- Removal of foreign body if found	- Intravaginal estrogen cream every night for 2 weeks then once weekly - Systemic HRT : to treat other symptoms of menopause

إنك بحاجة لان تكف عن الحياة داخل ذكريات الماضي.   إنك بحاجة لان تتعلم الصفح وغض الطرف كي تواصل مشوار الحياة .

إنك بحاجة لان تكون مستمعاً جيداً حتى تستخلص أفضل ما لدى الآخرين من خبرة . إنك بحاجة لان تأخذ نفسك على محمل الجد ، ولكن ليس لدرجة أن تلزم نفسك أن تكون كاملاً طوال الوقت ، أو ألا تستطيع التعرف على أخطائك وجوانب ضعفك .

ديفيد فيسكوت (خبير تنمية بشرية)

Female genital tract infections

	PID	Chronic salpingitis	Acute endocervicitis	Chronic cervicitis	Cervical erosion
Aetiology	**Organisms** : Neisseria gonorrhea is the most common cause / chlamydia trachomatis : in 20-40% / endogenous bacteria :E-coli- strept –klebseilla **Routes of infection** : ascending from endocervicitis- direct from infected organ – lymohatic from purepural infection – rarely blood born	1- Sequlae of acute PID 2- TB start as chronic infection	Sexually transmitted pathogen (neiseria gonorrhea – chlamydia- trichomaonas) - Staph or strpt	**Sequel of acute cervicitis** ▪ **Symptoms** ○ Vaginal discharge ○ Dyspareunia ○ Backache ○ Dysmenorrhea ○ Contact bleeding ○ Infertility ○ Frequency of micturition ▪ **Signs** : ○ Mucopurulent offensive discharge ○ Cervical erosion ○ Chronic hypertrophc cervicitis ○ Mucous polyp (hyper – plasia of epithelium) ○ Nabothian cyst (obst- truction of glandular ducts	Bright red area around external os due to replacement of stratified sq epithelium of ectocervix by columnar epithelium of endocervix
Predisposing factors	1- Young sexually active female / Multiple sexual parteners / After menses due to retrograde menses /Sexual intercourse facilitate ascending infection/ Iatrogenic as : IUD – D& C operation – HSG		IUD insertion - - post abortive – D&C procedure –part of purepural sepsis		-**chronic cervicitis** -**congenita**l erosion -**hormna**l erosion (excess estrogen with OCP)
Pathology	1 – **Endosalpingitis**: mucosal destruction & cilia – catarrheal or suppurative 3- **Interstitial &perisalpingitis** : in musculosa& serosa 4- **Oophorits** : micro-abscesses on ovarian surface 5- Pelvic **peritonitis** from direct extention 6- Chronic PID	1- **Hydrosalpinx:** follows acute cattarrheal 2- **Pyosalpin x** : acute suppurative 3- Chronic interstitial salpingitis 4- Tubo-ovarian cyst 5- Tubo-ovarian abscess			**IN chronic** : infected discharge erode epithelium at external os and columnar epitheliiumcover area then stratified grow beneath
Symptoms	➢ **Recent surgical intervention** : D&C or IUD or delivery – abortion in young active female ➢ Acute lower **abdominal pain** ➢ Increased vaginal **discharg**e ➢ Picture of **infection** : fever – headache – malaise = nausea – vomiting	➢ **History** of acute PID ➢ **Pain** : lower abdominal / pelvic / lower backache / pelvic congestive symptoms (discharge / menorrhag) / Dysmenorrhea / dyspareunia ➢ **Infertility** : tubo-peritoneal factor	1- **Mucopurulen**t vaginal discharge 2- Dyspareunia 3- Mid fever 4- **Backache**		1- **Vaginal discharge** : excessive mucoid 2- **Contact bleeding** 3- Symptoms of chronic cervicitis
Signs	➢ **Abdominal Exam** : lower abdominal tenderness ➢ **Bimanual Exam** : aadenexal tenderness – cervical motion tenderness	**Adenexal swelling** bilateral – tense – cystic – tender fixed with **fixed RVF** by adhesions – chronic cervicitis	- Cervix red swollen – with discharge - **Tendernes**s on moving it		**Vaginal exam** : contact bleeding **Speculum** : flat ,papillary or follicular erosion
Invetigations	▪ **Examination of discharge** : by gram stain for gonorrhea – search for achlamydial& gonorrheal antibodies ▪ **CBC & ESR** : leukocytosis &icreased ESR ▪ **US:** mostly norml in acute except if tubo-ovarian abscess – also to exclude ectopic &myomata ▪ **Laproscopy** :gold standard (tubal hyperemia – edema – purulent exudate) done to confirm or in poor respone to TTT after 72 H ▪ **Culdocentesis :** aspiration of fluid from douguls pouch for culture & sensitivity ▪ **Tests for STDs**	▪ **Pelvic US** : detect adnexal mass ▪ **Laproscope**; especially with infertility – differentiate it from endometriosis ▪ **Investigations of TB** ▪ **CBC & ESR** : leukocytosis &icreased ESR ▪ **HSG** : show dilated blocked tube – done after subsidence of acute phase ▪ **Immunoflurescent a**ntibody for chlamydia ▪ **CT : in** some cases	**Cuture**& sensitivity of discharge	1- **Culture &** sensitivity of discharge 2- Exclusion of malignancy by vag&**cervical smears**	**Vaginal and cervical smears to exclude malignancy**
DD	Ectopic pregnancy / ruptured ovarian cyst / degenerating myoma / Endometriosis / inflammatory bowel disease	Pelvic endometriosis – pelvic malignancy			
Treatment	1- Rest &**analgesics antipyritics** 2- **Empiric therapy of antibiotics** : a. ***Mild to moderate cases*** : Broad spectrum antibiotics orally (ofloxacin 400mg once orally for 14 day + Metronidazole 500 mg twice orally for 14 day) b. ***Sever cases*** : parentral antibiotics regimen (ofloxacin 400mg Iv / 12 H + metronidazole 500 mg IV / 12 H) c. ***Tubo-ovarian abscess***: same as sever or Ampicillin 2g iv /4 H + gentamycin + metronidazole 500 IV / 8 3- **Surgical ttt** : sever cases and abscess formation either drainage of abscess or unilateral salpingo-oophorectomy	1- **Conservativ**e : Antibiotics for acute exacerbations – glycerineecthyol for pelvic congestion 2- **Surgical :** a. ***Salpingostomy*** : infertility due to hydrosalpinx of small size – no recurrent acute exacerbations b. ***Salpingectomy:***frequent acute axacerbtions – large swelling c. ***Hysterectomy*** : if both tubes affected d. Aspiration & drainagefor cystic swellin e. ICSI & IVF for ttt of infertility	**Broad spectrum antibiotics** _ it canbe complicated by : 1- Turning into **chronic** infection due to branching of endocervical glands 2- Spread of infection to be **PID**	1- Oral & vaginal a**ntibiotics** 2- **Cervical cauterization**incase of erosion	1- **Hormonal erosion** : no ttt except prolonged 2- **Antibiotics** for chronic cervicitis 3- **Cauterization :**electrocautery – cryocaytery – laser Vaporization – Endocoagulation

Whatever doesn't kill you really does make you stronger. ***Time heals almost everything. Give time, time.***

	TB	Bilharziasis	Syphilis	Gonorrhea	Chlamydia	HSV	HPV	HIV
Organism	Ttuberculosis bacilli		Treponema palladium	Neisseria gonorrhea	Chlamydia trachomatis	Herpes simplex II	DNA virus	Retovirus I-II
Route of infection	Blood – lymphatics – direct extension from peritoneum - infected semen	Vascular communication between vaginal &vasical venous plexus	Sexually transmitted	Sexual – infected towels or toilet – baby during labour	Sexual transmission – perinatal trans	Sexual – t onew born during vaginal delivery	Sexual – neonatal infection	Sexual - - blood products – contaminated syringes – tattooing –perinatal
Pathology	**Tubes show** : sausage shaped – surrounding adhesion – tubercules on surface – fimbriae not indrawn	**Deposition of ova :** - Sandy patches - Polyp formation - Ulceration - Fibrosis						
Clinical picture	1- Infertility : 2- Menstrual disturbances 3- Discharge 4- Pain **Signs** : 1- Tender fixed adnexal swelling 2- Nodules in douglous pouch 3- TB peritonitis 4- TB cervical ulcers	- V**ulva** : multiple sessile papliomata> ulcers - **Vagina** : any of 4 lesions found - **Cervix** : papillomata mor common - **Tubes /ovaries** : fibrosis - **Uterus** : very rarely	1- **1ry syphilis**: chancre on vulva or cervix raised papule soon ulcerate + enlarged inguinal LNs 2- **2ry syphilis** : skin rash – mucous patches – condylomatalata – generalized LN 3- **3ry :**gumma – CVS affection – neurosyphilis	1- **Urethra :** frequency & burning 2- **Endoccervix**: backache & discharge 3- **Bartholin gland** : tender – red edma 4- Salpingo-**oophoritis** 5- **Transient**endometritis 6- **Systemic infection :** arthritis –iridocyclitis 7- No vag infection	1- **Endocervicitis**: asymptomatic 2- S**alpingitis**: ectopic or infertility 3- U**rethritis** : frequency & dysuria 4- **Perinatal infection** : conjunctivitis – pneumonia	- **1st attack** : multiple small painful vesicles rapidly ulcerates leaving shallow painful ulcers - **Recurrent attacks** : milder than 1st attack due to reactivation of virus	1- **Condylomaaccu monata**: cauliflower like lesions on vulva 2- **Dysplastic** changes of cervix especially serotypes 16-18	1- **Initial infection** : mononucleosis like symptoms 2- **Incubation** : long variable 5-10 years 3- **AIDS related** complex : fever – diarrhea for > 1 m- weight loss all not explained – generalized LN 4- **AIDs :** immunosuppression (Kapsi sarcoma – opportunistic)
Investigations	1- **PEB** : saline preserved – Zeil-nelsen stained – Lovenstein Jensen cultured 2- **HSG** : Dwarf uterus – beading of tubes 3- **Laproscopy**: 4- **CBC** : Lymphoctosis ↑ ESR 5- **Tuberculin test** 6- **Chest x-ray**	**Urine –stool analysis** To prove bilharziasis + picture of lesions	1) **Smear** from lesion : dark ground illumination 2) **Biopsy** : show syphilitic granulation tissue 3) **Serological tests** : +ve in 2ry stage : a. Non specific : wasserman reaction & VDRL b. Specific : TPI / FTA-abs/ Microh-emaglutination assay	1-**smear & culture** of discharge at thyar martin medium 2-**complement fixation** test +ve after 6 weeks	1-tissue**cutlture** : Mccoys cells 2-**complment fixation** 3-**pap smear** of cervix	**Complications** 1- 1ry attack in pregnancy lead to **abortion** 2- ROM > 4 H cause infection of fetus lead to its **death** 3- It is linked to **cervical neoplasia** and cancer	- **PAP smear** : koilcytes (exfoliated squamous cells wrinkled &pyknotic) - **Coloposcopy**: flat small lesions with vascular punctations	1- Detection of viral antibodies by **ELISA** –western blot technique 2- **CD4 /CD8** ratio depressed 3- **Viral culture**
Treatment	1- **Medical** : combination of 2 antituberculus for at least 6 M INH – rifampicin 2- **Surgical** : apnhysterectomy in large cases preceded &followed by ATB	**Antibilharzial**: praziquentel **Antibiotics** for 2ry bacterial infection	**Procaine penicillin** : 600,000 U IM daily for 2 W or **Benzathinepenicillin** : 2.4 milliom unit . Erythromycin for penicillin sensitive	**Procaine penicillin** single dose 4.8 million units IM combined by 1 gm of probencid orally	**Antibiotics** prophylaxis to new born **Tetracyclin**e 500 mg /6 H for 1-2 w	- **Analgesi**cs - **Acyclovir orally** 200 mg 5 times for 10 days or locally - Local **gential violet** 1% - **CS** for pregnant with infection - **Cervical smear** to rule out dysplasia	- **Condylomatalata**le asions : painting by podphylin resin 25 % in paraffin oil – cryocautry – electro- laser – 5 flourouracil - **Precancerous** lasions : cryo- laser – or surgical remova l	No effective ttt – **Azidothymidine**used to ptolong survival

انصح نفسك بالشك في رغباتها، وانصح عقلك بالحذر من خطراته، وانصح جسمك بالشحّ في شهواته، و انصح مالك بالحكمة في إنفاقه، وانصح علمك بإدامة النظر في مصادره. (مصطفي السباعي)

Incotinence & fistulae

	Stress UI	Urge UI	Vesicovaginal fistula	Ureterovaginal	Urethral F	Rectovaginal F
Definition	Involuntary escape of urine through urethra during increased IAP during cough – sneezing –straining	Leakage of urine from urethra before starting to void	Abnormal communications between bladder & vagina	Between ureter & vagina	Rare	
Aetiology	1- **Childbirth trauma** :damage pelvic floor muscles & fascia 2- **Postmenopausal weakness** : atrophy of fascia 3- **Fibrosis** of urethra & periurethral support from bladder neck surgery 4- **Congenital weakness** in pelvic support + chronic increase in IAP (obesity – constipation – chronic cough)	1) **Idiopathic** 2) Local bladder **irritation** : stone infection, ulcer ,polyp 3) **Neuropathy**: DM , spinal cord lesions	1- **Obstetric trauma** :either necrotic VVF (obstructed labor) or traumatic (instruments) 2- **Pelvic surgery** hysterectomy espciallty with adhesions – pelvic malignancy surgey - CS 3- **Pelvic malignancy** : 2% direct 4- **Pelvic radiation** : 6 %	**Injury** of **ureter** during gynecological operation as hysterectomy – wertheim's – anterior colporrhaphy difficult delivery by CS	**Obstetric** childbirth trauma / surgical trauma as correction of SUI	1- **Traumatic** : complete perineal tear / post colpoperi 2- **Inflammatory** : perianal abscess 3- Malignant : extensio 4- **Irradiation** : 5- **Congenital** : rare
Symptoms	**Involuntary leakage** of urine during coughing – may be associated prolapse	Urgency , frequency , nocturia	-**Complete incontinence** ;is the main presentation (continous – no desire) in low or large -**Partial** : if high or small -**Cystitis** –vulvitis – pruritis -H**istory** after labor – radio -Feal fistula if large or fibrosis around it if small in palpation -Inspection by **sims' speculum**	**Incomplete** incontine-ce (bladder fill empties normal 1- **Inspection** : small highly situated fistu 2- **Methylene blue test** todifferentiate it fom vesicovaginal fistula	**Continent** all through but complain of voidi of double stream of urine during voiding / post micturation vaginal dribbling	- **Large fistula** : incontenece of feces & flatus + 2ry vaginitis (vag discharge) - **Small:** escape of flatus from vagina
Signs	1- **cough stress test** :elicit urine escape to see 2- **Bonney's test** : differniate between SUI due to bladder neck descent or due to weakness in bladder neck 3- Examination for associated **prolapse** 4- **Q-tip test** : detect descent & mobility of urethrovesical junction	Same test of SUI to exclude SUI				
Investigations	1- **Urodynamic studies** : Cystometry : (leakage of urine during increase IAP in abscene of detrusor contractions) – urethral pressure profile ☹ increased intravesical P over intraurethral 2- Midstream urine specimen for **culuture** 3- Postvoiding residual urine **PVR** incre 4- **IVP** – **cystoscopy** – **urethroscopy**	1- **Cystometry** : detrosur overactivity as detrusor pressure filling > 15 cm/H2O 2- Urine **culture** & sensitivity may reveal cystitis as a cause 3- **IVP** – **cystoscopy** – **urethoscopy**	1- **Retrograde coloured dyeinjection** – inspection & 3 gauze test 2- **IVP** ; for course & uretric F 3- **Cystoscopy** & IV **injection of indigo** – carmine dye / urethroscopy	**Cystoscopy** show normal bladder with uretric efflux on one side –failure of passage of ureteric catheter on affected side	Urethral catheter – urethroscopy	
management	1- **Conservative** : a. *Pelvic floor muscle exercise* : kegel exercise or passive electrical stimulation b. *Scheduled voiding* & avoid complete filliing c. *Estrogen therapy* : local vaginal cream in menopausal d. *Alphasympathomimetics* to decrease IVP e. *Pessary* ttt : temporary ttt for sui with prolapse 2- **Surgical** : a. *Colposuspension operation* : suscpension of upper vagina & upper 1/3 of urethra to cooper's ligament by abdominal approach (standard operation – highest success rate) b. *Sling operation* : suscpension of vescicourethral junction to anterior abdominal wall by rectus sheath – sutures – tension free vainal tape (mesh like tape) c. *Kelly's placation* with anterior coloporraphy placation of paraurethral fascia vaginally –then ant coloporaphy is done by success rate 60-70 % d. *Periurethral injection* of *collagen* : short term ttt success after 5 years < 30 %	1- **Bladder training exercise** : increase interval between voids difficult need cooperative Pt 2- **Anticholinergic drugs** : detrusitol 2 mg twice daily	1- **Conservative** : a. If discovered during difficult labor → inser t rubber catheter and left for 3-6 weeks till fistula heal b. If discovered some time after no operation done except after 3-6 months 2- **Surgical** : a. 1st *repair* carries the best prognosis / multirepair must be tension free b. *Preoperative preparation* : i. Proper assessment ii. Ttt of vulvitis & cover it b y Vaseline iii. Renal function test iv. Culture of urine c. *Operations* : i. Vaginal : deboublement / saucerisation ii. Abdominal : for large –high – recurrent – near ureter d. *Post-operative* : vaginal pack for 24 h /catheter for 10-14 day / no sexual course for 3 m & pregnancy for 1 Y / subsequent labor by CS	1-**Prevention** : a. Preoperative IVP to delineate course or ureteric catheter b. Proper surgical technique c. Immediate repair in operation if discovered 2- **Re-implantation** of ureter in bladder or end to end anastomosis 3- Implantation into segment of ileum if reimplantation is not possible	**Surgical** reconstruction of urethra & closure of defect	1- **Fistula in lower 1/ 3** of vagina : convert it into complete peri-neal tear and suture it in layers 2- **Fistula in middle 1/3** : dedoublemet operation 3- **Fistula** in **upper 1/3** : abdominal reapir due to dense fibrosis 4- **Preoperative** : purge & daily enema & vaginal douche / non residue diet / neomycin orally 3 days before 5- **Post operative** : vulva regularly washed / low residue diet continue / intestinal antiseptic / antibiotics for infection

رَبِّ اوْزِعْنِي انْ اشْكُرَ نِعْمَتَكَ الَّتِي انْعَمْتَ عَلَيَّ وَعَلى وَالِدَيَّ وَانْ اعْمَلَ صَالِحًا تَرْضَاهُ وَادْخِلْنِي بِرَحْمَتِكَ
فِي عِبَادِكَ الصَّالِحِينَ

Prolapse

➢ ***Definition :***
Prolapse of one or more of pelvic organs downwards into vagina

➢ ***Types of prolapse:***
- **Anterior vaginal wall prolapse** : urethrocele – cystocele – cystourethrocele
- **Posterior vaginal wall prolapse**: rectocele – enterocele
- **Apical vaginal wall** : utero-vaginal (uterine descent with inversion of vaginal apex) – vault prolapse (sfter hysterectomy

➢ ***Degrees :***
- **1st degree** : descent within vagina - **2nd degree :** descent to the introitus
- **3rd degree :** descent outside introtus (complete descent of uterus called procidentia

➢ ***Aetiology :***
- **Childbirth trauma** : multiparity (risk ↑ 1.5 times with each vaginal delivery) increased duration of 2nd stageof labor with high fetal birth Wt or forceps use – direct pelvic floor injury
- **Ageing** : every decade of life 30-60 incidence doubles from collagen loss
- **Congenital weakness** : of pelvic support or spina bifida defective innervation (nulliparous prolapse)
- I**atrogenic** : inadequate support of vaginal vault in hysterectomy
- Any of this + increased IAP

➢ ***Anatomical changes :***
- V**agina** : keritinization (being everted exposed to air-trauma) / ulceration (from congestion & circulatory changes)
- **Cervix** : ulceration in most dependant part / hypertrophy from congestion / supravaginal elongation from stretch on mackenrodt's
- **Urinary** : descent of base of bluffer / kinking of ureter (hydroureter

➢ ***Symptoms :***
- **Sensation of pelvic heaviness** : ↑ by end of day - ↓ by rest
- **Mass filling vagina** : on strainig or squatting - ↓ by lying down & reduction
- **Low backache** : from stretch on uterosacral ligaments & uterus ↑ by heavy work –weight lifting ↓ by rest – lying down
- **Urinary symptoms** : common (frequency from trigone irritation or cystitis / SUI / inability to complete micturation unless mass is reduced)
- **Rectal symptoms** : heaviness in rectum / difficult defecation
- **Menstrual symptoms** : dysmenorrhea / leucorrhea

➢ ***Signs***
- **General** for causes of increased IAP
- **Examination** of type & degree of mass / ppresence of ulcers / if there is complete procidentia
- **Test levator ani** function by palpation of post vaginal wall & perineum during cough & strain
- **Diagnosis Of** : supravaginal elongation of cervix by uterine sound to measure cervical length t ointernal os inrelation to fornices depth / associated stress incontinence / enterocele feeling gurgling

➢ ***Investigstions :***
- Urine analysis for culture & sensitivity / IVP for ureter
- Urodynamic studies for incontinence / pelvic & Abd US
- Routine preoperastive / silver nitrate on ulcers

➢ ***Manaegement :***
- **Conservative** : Pessary treatment (temporary reducation) till : healing of ulcers – ttt of anemia & correction of liver and kidney function / during pregnancy / medically unfit either ring or shelf type
- **Surgical :**
  - **cystocele** : **anterior** colporrhaphy – **rectocele** (posterior colpoperine-rrhaphy) –**cystorectocele** (classical repair both previous operations)
  - **uterovagina**l (with cysto-rectoocele : classical repair with shortening of mackenrodt's / same condition + supravaginal elongation : machester operation (same + amputation of vaginal portion of cervix) /perimenpausal + marked prolapse (vaginal hysterectomy and repair)
  - **Enterocele** (either vaginal repair the commonest or abdominal with sacroccolppexy)
  - **vaginal vault prolapse** (abdominal sacrocolpopexy – vaginal mesh repair – Leforte's operations)

Leiomyoma

➢ ***Definition :***
Benign tumor of uterine smooth mudscles (myometrium)

➢ **Incidence :** commonest benign tumor of FGT 20% in over 30 women

➢ ***Risk factors :***
- Nulliparous & low parity morethan multiparois
- Positive family history / Dark races more common / Obese

➢ ***Aetiology :***
- **Hyper-estrenism** : evidenced by appear only in childbearing period – increase in pregnancy – decrease in menopause – associated endometrial hyperplasia
- **Growth factors** (increased EGF – decreased GIF)
- **Genetic factors** : play a role

➢ ***Pathology :***
- **Macro** : variable size – rounded – multiple usually – firm – asymmetrical uterine enlargement
- **Cut section** : whorled appearance paler from uterus – psudocapsule in which lie blood vessels
- **Micro**: smooth muscle cells in bundles with fibrous CT

➢ ***Pathological changes :***
- Atrophy after menopause - hyaline degeneration : commonest
- Cystic degeneration if absorbed - fatty degeneration
- Calcification - red degeneration : with thrombosis of BVs
- Necrosis - Infection - torsion of pedunculated SSM
- Rupture of surface vei of SSM - incarceration during pregnancy
- Malignant transformation : very rare 0.5 %

➢ ***Effect on pelvic organs :***
- **Uterus** : increased in size – enlargement of cavity – endometrial hyperplasia - increased vascularity – displacement or inversion in large fundal ones
- **Tubes** : chronic salpingitis with infected SMF polyp – obstruction in corneal ones – elongation & stretch in broad ligamentry
- **Urinary** : frequency if press on bladder – retention if pressing on urethra – hyroureter &hydronephrosis if press on ureter

➢ ***Symptoms :***
- **Menstrual disorders** : menorrhagia (increased endometrial surface area –interfere with uterine contractions - ↑ vascularity –endometrial hyperplasia) – metrorrhagia (tip of SMF polyp – sarcomatous change)
- **PAIN :** dull aching (infection /hyaline degeneration) – coliky(extrusion of polyp) – acute abdominal (red degeneration – torsion of SSM – loin (hydronephrosis) – dysmenorrhea SMF
- **Pressure symptoms** :on bladder→frquency – urethra→retention - ll veins→ edema – nerves→referd back pain -
- **Infertility** in 5-10 % interfere with implantation (SMM) or sperm ascent (cervical) – tubal obstruction (corneal or multiple SMM) – associated condition

➢ ***Signs :***
- **Abdominal examination** : only large ones felt mobile –firm non tender dull on percussion asymmetrical except single ISM or SMM
- **Pelvic examination** : confirm large by mobilitywith cwervical motion – detect small byasymmetrical uterine enlargement – fell SMF or cervical – uterus fixed in cervical & broad
- **Speculum** : diagnose SMF polyp protrude from cervix

➢ ***Investigations :***
- **US :** gold standard daiagnose site –size –number / relation to endometrial cavity / exclude any pelvic pathology / SSH for SMF
- **HSG** : detect uterine cavity enlargement – SMM as filling defect – test for tubal patency
- **MRI :** differentiate between adenomyosis & leimyoma / between broad ligamentry – solid ovarian tumor
- **Laparoscopy** : rare mainly for ttt of ssm
- **Hysteroscopy :** confirm SMF – SMM
- **Preoperative investigations** including IVP

➢ ***Treatment :***
- **Conservative** : for asymptomatic small fibroid to be examined periodically each 6-12 M
- **Medical** : in cases of menorrhagia & uterine enlargement < 12 W
  - **NSAID** : ↓ PGL → ↓ Menstrual flow
  - **Progestin** : atrophic endometrium → control bleeding – regular shedding & cycles
  - **GNRH** : lead to 2ry amenorrhea & ↓ size –vascularity of myoma taken either :
    - ***Short term*** : Preoperatively for 2-3 M to control bleeding so correcting anemia without blood transfusion & ↓ size of myoma to facilitate procedure
    - ***Long term*** : for perrimeunopausal women to induce medical menopause avoiding surgery till natural menopause comes

- **Surgical** :
- Indications for surgery in myoma :
  - **In** asymptomatic patients : multiple large myoma > 14 week / rapid growth or rapid recurrence after removal / certain types (pedunclated SSM / cervical or broad ligamentry / SMF protrude from cervix)
  - Symptomatizing Pts : sever intractable bleeding – infertility & RPL if proved to be the cause
- **Operations are** :
  - ***Myomectomy*** :
    - Indications : done in symptomatic fibroid in women desirous for fertility after failure of medical ttt / associated infertility or PRL due to myoma .
    - Contraindications: During pregnancy except if torsion occur / after menopause / suspension of sarcomatous change / multiple large myomata
    - Types : abdominal is the commonest / vaginal in SMF polyp or cervical fro portio vaginalis / hysteroscopic in SMM <5cm dimeter protrude >50 % inuterine cavity / laproscopic mainly SSM <4 in number <6 in diameter
    - Complications : excessive blood loss / postoperative fever ileus / persistent of symptoms / recurrence / intestinal adheesions / rupture of uterus later in labor
  - ***Hysterectomy*** :
    - Indications : multiple or very large especially in perimenopausal or multiparous / post menopausal wit hsymptomaizing fibroids
    - Types : Aabdominal / vagina lin uterine enlargement < 12 W with some prolapse / laproscopic in slightly enlarged
  - ***Uterine aartery*** embolization : with 60% reducation of size
  - ***Lparoscopic myolysis*** : by laser –coagulation or cryo
  - ***MRI guided focused*** US produce protein denaturation



➢ **Definition :**
Presence of functioning endometrial glands and stroma outside endometrial cavity

➢ **Aetiology :**
- Retrograde menstrual flow through tube to peritoneum implanting ccausing irritation and celomic metaplasia
- Hematogenous or lymphatic spread : explain endometriosis indistant tissues
- Gentic and immunological influence : 7% in siblings – altered immunological influene is involved

➢ **Pathology :**
- Pelvic endometriosis : burned match head spots (multiple small dark red or brown cysts)
- Ovarian Endo : either powder burn (tiny superficial hemorrhagic implants) or chocolate cyst (ovarian endometrioma cyst filled with dark alterd blood)

➢ **Symptoms :**
- Type of patient : midreproductive age – nulliparous – high socioeconomic
- Dysmenorrhea : intramenstraul increscendo (with onset on menses) decrescendo fashion (toward end of cycle)
- Dyspareunia : due to omplamts on douglas pouch – uterosacral ligament- ovarian – fixed uterus
- Chronic pelvic pain : > 6 months strongly suggestive of endometriosis
- Infertility : Moderate to sever endo (from periovsasrian adhesions lead to impaired ovum pick up / anovulation / dyspareunia) in mild (luteal phase defect – increased tubal macrophage activity)
- GIT symptoms : pain in defecation due to implant on recto-sigmoid
- Urinary : dysuria & frequency
- Distant : lung (hemoptysis) – brain (seizures) – umblicud (monthly bleeding)

➢ **Signs :**
- In minimal lesion normal examination – but extensive : fixed RVF from adhesions /if chocolate cyst: felt as tender tense cystic fixed adenaxal swelling – nodules on dougles pouch : tenderness on vaginal examination

➢ **Investigations :**
- CA-125 : elevated in endometriosis useful for follow up of response to treatment
- Pelvic imaging : US & MRI can not detect typical endometriotic lesions only large ones – and ovarian endometrios
- Laparoscopy : gold standard in diagnosis indicated in cases of infertility –chronic pelvic pain – unresolved adnexal masses : you see characteristic brown pigmentations surrounded by adhesions

➢ T**reatment** :
- Medical : create a state of pseudo pregnancy or pseudomenopause by
  - *OCP* : reapted courses continuously administerated 4-6 M each creating a pseudo-pregnancy state & atrophy – resorption of ectopic endometrium
  - *Progestogen* : continuous therapy of synthetic progestin either tablets 5mg orally of MPA or depot MMPA injections / 3 months
  - *GNRH agonists* : block Pituitary GNRH receptors → suppression of FSH & LH → suppression of ovarian estrogen & transient 2ry amenorrhea (pseudo-menopause) taken IM injection monthly
  - *Danazol* : testosterone derivative lead to suppression of FSH & LH as well as ovarian estrogen & progesterone → atrophic endometrial changes & 2ry amenorrhea finally suppression of endometric focus
- Surgical : Laparoscopic excision or laser ablation of all visible lesions & associated adhesions in infertile patients to restore normal anatomy + 3 month course of GNRH preoperatively improve prognosis / TAH-BSO for pariens who don not desire for further fertility

Make peace with your past so it won't screw up the present.

Amenorrhea

- ***Definition:***
  - ***Primary amenorrhea*** **:** menses has never occurred by age of 14 without 2ry sexual characters or 16 in presence of 2ry sexual characters
  - ***Secondary amenorrhea*** **:** cessation of menstruation more than 6 months in reproductive age not due pregnancy
- ***Etiology :***
  - **Outflow tract disorders :**
    - **a.** *Imperforate hymen* : congenital absence of orifices in hymen → hematocolpos at time of puberty & cryptomenorrhea / in 0.1 % of born females / present with : 1ry amenorrhea with intact 2ry sexual characteristics & cyclic lower abdominal pain & urinary retention premenstrual / bulge at hymenal ring / confirmed by pelvic US / TTT cruciate incision
    - **b.** *Transverse vaginal septum* : congenital septum between hymenal ring & cervix → hematocolp-os & cryptomenorrhea (as imperforate) // TTT : surgical excision
    - **c.** *Asherman's Syndrome :* acquired intrauterine adhesions either from vigorous endometrial curettage or IU infection // present : 2ry amenorrhea + history of endometrial damage // invest : US & HSG & hysteroscopy /// TTT : lysis of adhasions by hysteroscopy or D&C
    - **d.** *Mullerian agenesis* (Rokitansky $) : genticic defect lead to failure in development of uterus & cervix & vagina / 20 % of cases with 1ry amenorrhea / 2ry sexual characters are normal
    - **e.** *Testicular feminization $* : X-linked recessive disorder causing defect in peripheral androgen receptors so he fail to develop male sexual characters & develop as a female but gentcally 46XY with gonads at labia and failure of mullerian development due to Y gene
  - **Ovarian disorders :**
    - **a.** *Turner $:* 45-XO – commonest cause of 1ry amenorrhea 30% of cases // picture : low hairv line – short stature – webbed neck – increased carrying angle // pathology : absence of Y → normal development of mullerian duct & but absent X lead to development of streak gonads
    - **b.** *Premature ovarian failure* : exhaustion of primordial follicles before 40 either idiopathic (autoimmune) –karyotype abnormalities – or induced (radiation – chemo- mumps)
    - c. *Resistant ovary $:* follicles fail to respond to gonadotropins temporarly → 2ry amenorrhea
    - d. *PCOS* : chronic anovulation + hyperandrogenism + morphologic changes in ovary
    - e. I*atrogenic* : bilateral surgical oophorectomy or bilateral ovarian destruction
  - **Pituitary disorders :**
    - a. *Pituitary adenomas* : prolactinoma is the commonest →suppression of GNRH by elevated prolactin / microadenoma : <10 mm more common than macroadenoma > 10 mm
    - b. *Empty sella $* : defect in diaphragm sella allows CSF to enlarge the sella → elevated PRL
    - c. *Pituitary insufficiency* : Sheehan's $ - radiation necrosis – pituitary infarctions – infiltrations
  - **Hypothalamic disorders :**
    - a. *Congenital GNRH deficiency :* Kallman $: congenital deficiency + anosmia
    - b. *Emotional stress* : can cause 2ry amenorrhea / pseudocyecsis (prl levels are elevated)
    - c. *Rapid weight loss* below 20% of ideal body Wt as in anorexia nervosa or bulimia
    - d. E*xercise* when sever stressful compitive →↑ androphins & 2ry amenorrhea as marathon runners
    - e. *Drug induced :* GNRH causing intial stimulation then prolonged suppression for FSH & LH // Progestine : prevent endometrial shedding & inhibit GNRH pulses // combined estrogen progestine therapy : in continuous therapy /// Androgenic drugs : atrophic endometrial changes
    - f. *Hypothalamic tumors* craniopharyngioma / lymphoma & histiocytosis & sarcodiosis
  - **Endocrine disorders :** hypothyroidism & cushing's
- ***History :***
  - **1ry amenorrhea** : developmental history / cyclic symptoms / history of anosmia
  - **2ry amenorrhes :** mense (onset – regularity – LMP) – exercise – stressful events – Drugs – virilizing signs or menopausal symptoms
- ***Examination :***
  - **1ry amenorrhea** : examine for female sexual characters / BMI / stigmata of turner / genital Exam
  - **2ry amenorrhea :** exclude pregnancy & lactation / PCOS & hyperandrogenism
- ***Investigations :***
  - **Hormonal profile :** B-hCG / prolactin / FSH&LH / serum E_2 & P / testosterone / thyroid functions
  - **Pelvic US :** can detect mullerian agenesis / streak gonads & agensis / Asherman's$ / PCOS
  - **Karyotype :** for detection of turner $ & testicular femiization
  - **Autoimmune screen :** in premature ovarian failure for antibodies
  - **CT&MRI :** for suspected intracranial lesions
- ***Management :***
  - **Hormonal :**
    - a. Cyclic HRT : cyclic OCP for 21 days in premature ovarian failure –PCOS-hypoplastic uterus not complaining of infertility or cyclic progersterone 7 days every month
    - b. Drugs of induction : clomphine citrate in eugonadotrophic / IM gonadotropin in hypogonadotrophic desirous for fertility
    - c. TTT of hyperprolactinemia : bromocriptine or cabergoline
    - d. TTT thyroid disturbace : Eltroxin for hyothyrodism / thiouracil for hyperthyroidism
    - e. TTT of pituitary disorders : cyclic combined HRT for regular cycles or IM gonadotropin for fertility / adenoma if not responsive to medical need trans-spenoidal surgery or gamma knife
  - **Surgical** : cruciate incision of hymen in imperforate hymen / excision of septum / reconstruction for neovagina in testicular feminization with gonadectomy after puberty then long life HRT

Anovulation

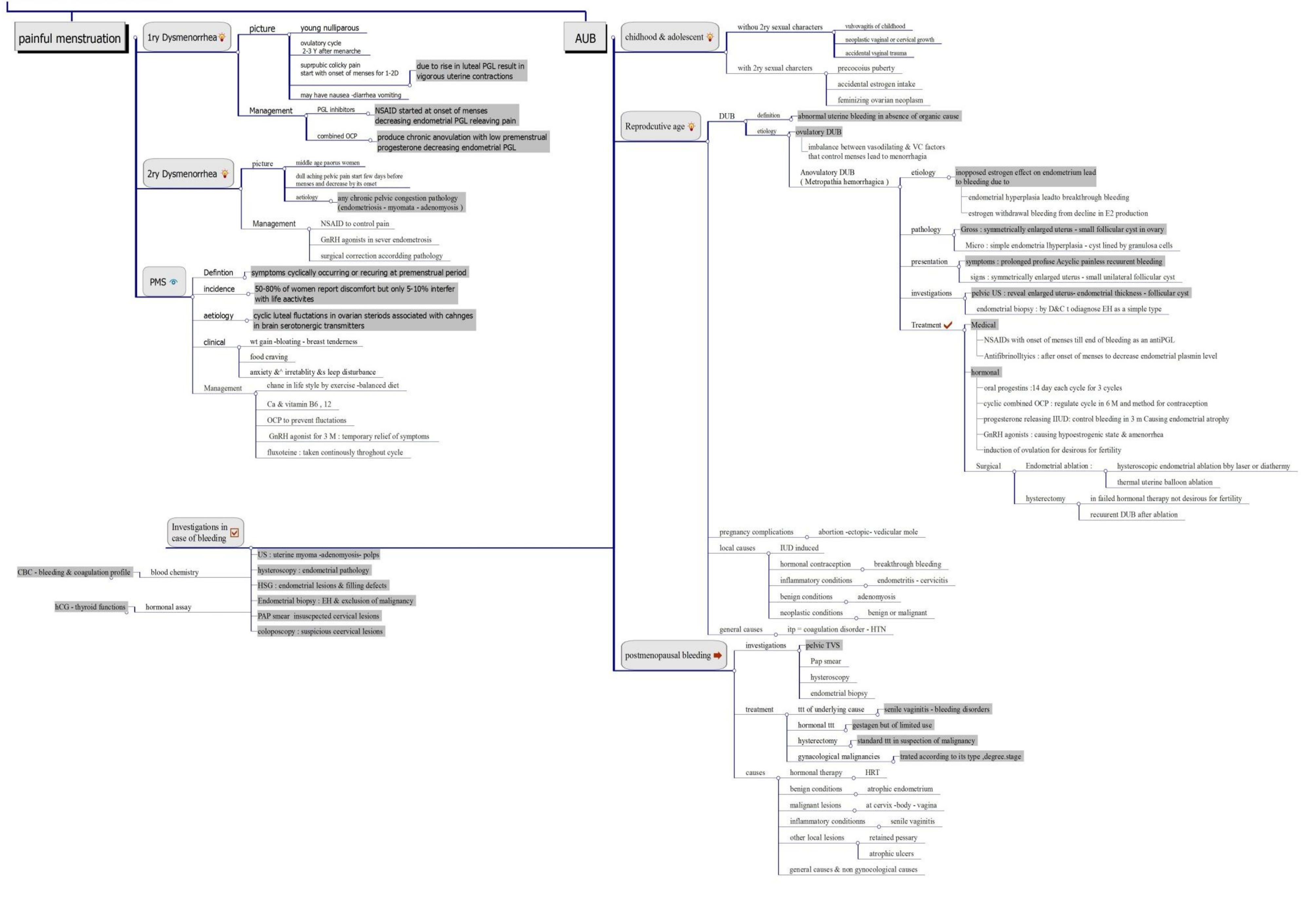
- ***Etiology :***
  1. **Hypothalamic causes** : Emotional stress- excessive weight loss- sever exercise – sever psychological disturbance / Kallman syndrome / brain tumors / Drug induced
  2. **Pituitary causes** : pituitary adenomas/ empty sella syndrome / pituitary insufficiency
  3. **Ovarian causes** : PCOS / premature ovarian failure / iatrogenic causes
  4. **Endocrinal causes** : hypothyroidism & cushing
- ***Clincal presentation :***
  1. Amenorrhea or oligo-hyomenorrhea mostly 2ry / infertility 1ry or 2ry
  2. Dysfunctional uterine bleeding / hirsutism
- ***Investigations for detection of ovulation :***
  1. **Basal body temperature chart :** daily record for oral temp in morning to detect thermogenic effect of progesterone in luteal phase so in ovulatory cycle show biphasic BBT chart / in anovulaotry cycles monophasic chart
  2. **Folliculometry** : serial TVS infollicular phase to monitor dominant follicle till rupture
  3. **Midluteal serum progesterone :** in day 21 of cycle (>10 ng/ml →ovulation / <5 anovulatory cycle / 5-10 means luteal phase defect)
  4. **Urinary LH kits :** detect preovulatory LH surge in urine for best time of coitus
  5. **Premenstrual endometrial biopsy :** show secretory changes → ovulatory cycle / proliferative → non ovulatory / weak secretory → LPD
- ***Treatment :***
  1. **Clomiphene citrate :**
     - Compete with estrogen for hypothalamic receptors → artificial hypoestrogenic state →↑ GNRH →↑ FSH → follicular growth →↑ E2 → +ve feedback on LH→surge
     - *Dose* :50mgoraltab twicw ddaily for 5days from 5th day of menses
     - *Indications* : 1st line for induction in nnormal FSH & intact axis
     - *Side effects* : flushes & headache / multifetal preg / OHSS I-II / LPD& hostile mucus
     - *Tamoxifen* : antiestrogenic has same action usedfor breast cancer after mastectomy
     - *Cyclofenil* : related to CC with weak estrogenic effect
  2. **Pituitary gondaotropins :**
     - *Types* : HMG (75IU FSh + 75 IU LH) / purified urinary FSH (75 FSH + 1LH) / synthetic FSH by recombinant DNA
     - *Mode* : stimulation of growth og primordial follicle
     - *Indications* : CC resistant / hypogonadotrophic anovulation / ICSI & IVF protocols
     - *Dose* : repeated IM injections from midfollicular phase till complete maturation
     - *Side effects* OHSS III—IV / multifetal pregnancy
  3. **HCG** :
     - *Action* : Induce atrificail LH surge leading to ovulation
     - *Indications* Used after course of CC or HMG to induce LH surge
     - *Dose* : 2 ampoules each 5000 m/IU IM after full follicular maturation
  4. **GNRH agonists** :
     - *Action* : in small doses ↑ FSH → follicular maturation / in larger dose →down regulation or receptors → gonadotrophins
     - *Indications* : IVF/ICSI protocols to prevent premature ovulation by suppression of LH
  5. **Combined therapy** ; CC/HMG/hCG or GnRH /HMG/ hCG
  6. **Drugs to assist in iinduction** :
     - *Bromocriptine* : to TTT hyperprolactinemia 0.2mg 1-2 tab daily
     - *Metformin* for insulin resistance in PCOS / *thyroid* for hypo /*corticosteroids* for Addison
  7. **Surgical** (**laproscopic ovarian drilling**) multiple small punctures by diathermy to *decrease ovarian androgens* / for selected cases of POCS / can cause ovarian damage – peritubal adhasions / time limited effect 3-6 M

Infertility

- ***Etiology :***
  1. **Male factor :**
     - **Abnormal spermatogenesis:** increased scrotal temp / genetic causes / drug induced
     - **Failure of transport :** bilateral epididymal obstruction (gonorrhea – vas absence) – bilateral surgical obstruction of vas (vasectomy – inguinal hernia) –immotile cilia $
     - **Failure of semen deposition :** ejaculatory dysfunction (impotence – retrograde ejacualtio
  2. **Female factor :**
     - **Ovarian factor :**
       - *Hypothalamic* **:** sever exercise or emotional stress – excessive wt loss- sever depression – drug induced –kallaman $-brai tumrs
       - *Pituitary causes* **:** prolactinomas – epty sella $ - pituitary insufficiency – adenomas
       - *Ovarian* **;** PCOS – premature ovarian failure – resistant ovary $
       - *Endocrinal* : hypothyroidism & cushing
     - **Tuboperitoneal factor** :
       - *Chronic salingitis* : from STDs – purepural or post abortive – non specific or specific
       - *Mechanical obstrucstion* :
       - *Surgical trauma* :
       - *Pelvic endmetriosis :* causing peritoneal & peritubal adhadions
       - *Pelvic peritonitis* : from appendicitis –ruptured gall bladder
       - *Congenital anomiles* : tubal aplasia or hypoplasia
     - **Uterine factor** :
       - *Uterine myomata* large or multiple interstitial or SMM if bicorneal or endometrial polyps
       - *Intrauterine synechae* : over curettage of basal layer – acute septic endometritis – chronic TB
       - *Congenital uterine anomalies* : bicornuate or septate – uterine hypoplasia or aplasia
     - **Cervical factor** :
       - *Change in cervical mucus* properties : scanty or visid
       - *Infection* either acute or chronic cervicitis
       - *Antisperm antibodies in cervical mucus*
       - *Conization* or excessive cauterization destroying cervical glands
       - *Cervical fibroid* elongating cervical canal
  3. **Coital disorders** :
     - **Dyspareunia** : painful coitus
     - **Vaginism** : reflex spasm of levators & gluteus & thigh muscles on any intercourse attempt
     - **Effluvium** seminis : excessive escape of semen from vagina after intercourse
  4. **Unexplained infertility** :
     - **Diagnosed by exclusion** in 15 % of infertile cases . possible causes are : psychological factors – defective sperm fertilization – dcerased ovarian reserve – occult cervical infection
- ***Investigations :***
  1. **Investigations of male factor :** semen analysis by masturbation 3-4days abstinence / hormonal assay (FAH&LH & PRL & testosterone) – Doppler US on testicles –testicular biopsy - karyo
  2. **Assessment of ovarian factor** :
     - *History* : irregular cycles with periods of 2ry amenorrhea suggestive of anovulatory disorder
     - *Symptoms* : midcycle pain –spotting – leucorrhea suggestive of ovulation
     - *Investigations* : BBT charts – folliculometry – MLSP – PEB- urinary LH kits /// serum FSH&LH – serum prolactin –serum androgen (discussed in anovulation)
  3. **Assesment of uterine factor** :
     - *Pelvic US* : detect uterine myoma –endometrial plovyp – adnexal masses
     - *Saline infusion sonography* : saline injectied under TVS detect endometrial abnormalities & tubal patency
     - *HSG* : visualization of uterine cavity abnormalities (congenital anomalies – filling defect) and internal lumen of fallopian tubes
     - *Hysteroscpy* : direct visualization of uterine cavity by an optic lens also do minor procedures
     - *PEB* : to exclude TB endometritis
  4. **Assessment of tubal & peritoneal factors** :
     - *HSG* : detect patency of tube – pelvic adhesions – hydrosaplinx – tubal peritoneal spill can detect peritoneal adhesions if limited or localized in control film – TB endometritis & salpingitis – improves pregnancy rate in 1st 3-6 months
     - *Laproscopy* : direct visualization of pelvic peritoneum – organs and external surface of tubes by optic lens detecing (adhesions – pelvic pathology as endometriosis – ovarian pathology PCO) – also you can inject dye and observe its spillage through tube to ensure patency
  5. **Assessment of cervical factor :**
     - *Physical properties* of cervical mucus : by microscopic examination & doning fering test & thread test detect if mucus is preovulatory (profuse –thin) or post ovulatory (thick-viscid)
     - *Post coital test* : examination of cervical mucus 6-10 h afte intercourse at time of ovulation t osee number of living and dead sperms & presence of leukocytes
- ***Management :***
  1. **Male factor** :
     - *General measures*: vitamins & antioxidants – TTT impotence – stop smoking –change drugs
     - *Hormonal TTT* : CC & HMG for defective spermatogenesis
     - *Surgical TTT* : ligation of varicocele
     - *ART* : IUI (in coital dysfuncton –erection disorders – mild oligospermia – female cervical – unexplained) – IVF (mild male factor – unexplained sever tubal damage – failed tuboplasty) – ICSI (sever male factor – failed oocyte fertilization after IVF)
  2. **Female factor** :
     - *Ovarian factor* : same TTT or induction of ovulation as in anovulation
     - *Tubo-peritoneal factor* :
       - Grade I-II tubal damage : operative laparoscopy(adhesiolysis of fine inflammatory adhesions – or cauterization of small endometriosis)- laparotomy (fimbrioplasy – salpingostomty)
       - Grade III –IV : IVF or ICSI
     - *Uterine factor* : hysteroscopic removal of polyps or synechiae – SMM – resction of a septum
     - *Cervical factor* : treatment of cause (cervicitis – hostile mucus –polyp removal) – estrogen & mucolytic drugs to improve mucus – IUI to ccervix to endometrial cavity
  3. **Unexplained infertility** : Revalaution of both parteners and doing further tests not done – superovulation induction protocols with HMG – repeated IUI for 3 cycles – IVF/ICSI at last

- You don't have to win every argument. Agree to disagree

Disorders of menstruation



PCOS

- ***Definition*** :
  - Chronic **anovulation** (2ry amenorrhea) – **hyperandrogenism** (hirsutism –elevated serum LH) – **characteristic US morphology** \(increased ovarian size & volume – peripherall yarranged follicles . necklace appearance)
- ***Prevelance*** :
  - 5-10 women in reproductive age – commonest ovarian cause of 2ry amrnorrhea
- ***Pathogensis*** :
  - **High LH** : from increased LH pulse & frequency → stimulate androgen secretion by theca cells – inhibit aromatase enzyme so increasing ovarian androgen
  - **Hyperandrogenemia** : from stimulation of theca cells by high LH & inhibition of aromatase so lead to → atresia of follicles – high serum androgen – hirsutism – conversion of androgen into estrone in fat cells
  - **Hyperinsulionemia** : due to peripheral insulin resistance lead to → increased sensitivity of theca cells to LH – decreased aromatase activity – decreased production og SHBG
- ***Clinical presentation :***
  - 2ry **amenorrhea** & infertility from chronic anovulation
  - **Hirsutism** from hyperandrogenemia
  - **Obesity** & glucose intolerance / DUB may occur from EH due to unopposed action of estrogen
- ***Investigations*** :
  - **Hormonal assa** y :
    - LH levels : elevated with normal FSH lead to abnormal LH/FSH ratio > 2:1
    - Elevated levels of : estrone – androstendiaone – free testosterone
    - Hyperinsulinemia from insulin resistance
  - **US** ; increased ovarian size & volume – necklace appearance – no dominant or mature follicle
  - **Laparoscopic picture** : Oyster shell ovary (enlarged ovary – thick capsule – absent gyrii)
- ***Long term risks :***
  - **DM** & CVS disease & obesity
  - **Endometrial** hyperplasia → endometrial carcinoma
- ***Management :***
  - **Weight reduction** : reduces insulin & androgen – improve response to therapy
  - **Hormone therapy** : cyclic gestagen for 10 days every cycle to induce regular cycle / combined OCP for 21 day for regular cycle
  - **Induction of ovulation** for fertility : CC / purified HMG / recombinant FSH / HCG injections
  - **Insulin sensitizing drugs** : metformin to improve insulin sensitivity
  - **Corticosteroids** : t osuppress ACTH in case of adrenal hyperandrogenemia
  - **Surgical TTT** : LOD t odecrease ovarian androgen
  - **Hirsutiam TTT** : cypertorone acetate – laser depilation

Hirsutism

- ***Definition :***

Excessive growth of androgen dependant sexual hair on upper lip –chin –inner thigh – trunk

Classification :

1. **Mild :** fine pigmented hair over chest – abdomen –perineum –face
2. **Moderate** : cotse pigmented hair at same places
3. **Sever :** coarse pigmented hair at face –tip of nose - ear lobes

- ***Etiology :***

1. **Idiopathic :** increased receptor sensitivity to androgen with normal female androgen
2. **Adrenal gland causes :** congenital adrenal hyperplasia – adrenal tumors
3. **Ovaian causes :** PCOS – androgenic ovarian tumors as sertoli lyedig cell tumor
4. **Mixed ovarian & adrenal**
5. **Pituitary causes :** cushing $ - acromegaly
6. **Androgenic drugs** : danazol inendometriosis

- ***Investigations :***

1. **Hormonal assay :** plasma testosterone level(0.2-0.8 ng/ml) – free T level – DHAS 1500-2500
2. **Radiological investigations :** CT &MRI in pituitary causes / & abdominal –pelvic US for tumor

- ***Treatment :***

1. **Elimination of specific causes :** removal of tumor – stoppage of drug - ttt of cushing
2. **Hair removal techniques :** shaving & tweezing / Bleaching for mild cases / electrolysis-laseer
3. **Suppression of androgen synthesis:**
   - OCP : decrease ovarian androgen production – increase SHBG so decreasing free T
   - Corticosteroids : suppression adrenal androgen production in CAH
   - Spironolactone : diuretic that inhibt 5 alpha reductase
   - Cypreterone acetate : potent progestin & antiandrogen that inhibit LH & decrease androgen level for 10 days
4. **Androgen receptor blocker :** inhibit binding of DHT to receptors → direct inhibition of hair growth

Menopause

- ***Definition :***

Permenant cessation of menstruation due to intrinsic ovarian failure with mean age 51.5y

- ***Endocrinal changes :***
  - Decreased serum *inhibin* & *E2* produced by ovary
  - Increase serum *FSH* followed by LH
  - Increase free T & decrease in *SHBG*
  - These changes occur in *climacteric* period (few years preceding menopause)
- ***Pathological changes :***
  - **Urogenital atrophy :**
    - *Vagina* : atrophic epithelium – loss of rugae – increased PH
    - *Pelvic ligaments* : weaker pridspose to POP
    - *Uterus* : smaller with atrophic endometrium < 5mm / fibroid decrease in size
    - *Cervix* : become flushed – squamo-columnar junction migrates higher
    - *Urethra & bladder*: loss of elasticity → UTI – SUI
  - **Breast changes** : smaller –flabby – progressive fatty replacement
  - **Skin & hair** : loss of collagen so lost thickness & elasticity – more alopecia
  - **CNS** : affect cognitive function & mood
- ***Clinical features :***
  - **Hot flushes :** recurrent waves of heat over chest –neck- face followed by cold sweating and last for 1-5 min start in perimanopause / it is due to inappropriate stimmulatio of thermoregulatory centers at hypothalamus lead to VD of skin
  - **Nervous Symptoms :** anxiety – irritability – mood changes – sleep disturbances
  - **GIT symptoms** : constipation – abdominal distention
  - **Genital symptoms :** dyspareunia form senile vaginitis / POP from ligament weakness
  - **Urinary symptoms :** frequency , dysuria , SUI
  - **Andronergic manifestations :** increased facial hair - baldness
- ***Remote health hazards :***
  - **CVS changes :** estrogen deficiency → hyperchlosterolemia – increased LDL – atherrosclerosis – hypertension – myocardial infarction
  - **Osteoporosis :** estrogen deficiency lead to imbalance between osteoclasts & osteoblasts causing fractures of vertebrae & increased curvature of spine // TTT by : bisphosphonate – calcitonin- HRT – selective estrogen receptor modulators - phytoestrogens
- ***Management :***
  - **Reassurance** & tell patients natural changes
  - **Regulation** of diet & regular exercise
  - **Sedatives** |& tranquilizers on indivudal basis
  - **Periodic examination** and investigations (TVS – mammogram – pap smear)
  - **Hormone replacement therapy**
    - *Benefits* : reduce menopausal symptoms – reduce vaginal dryness – prevent osteoprosis
    - *Risks* : increased CVS risk – venous thromboembolism – breast cancer – EH & cancer
    - *Indications* : sever menopausal symptoms – premature menopause – risk of osteoprosis
    - *Contraindications* : undiagnosed bleeding – brest cancer – DVT history – liver disease
    - *Types* : estrogen only therapy (with absent uterus) – cyclic estrogen & progesterone (regular endometrial shedding) – continuous combined for 1-2 years
    - *Routes* : oral route – transdermal patch – IM injections monthly – local intravag cream
    - *Follow up* : periodic clinical examination – breast examionation – TVS – pap smear – periodic Mamo – Bone densitometry

Perineal lacerations

- ***Causes :***
  - **Bad management of 2nd stage of labour :** premature extension of head – lack of adequate perineal support – instrumantel delivery
  - **Inadequately performed episiotomy in :** delivery of malpositions - usage of forceps – rigid perineum – narrow suprapubic angle
  - **Rapid delivery of head :** as in precipitate labour
  - **Sever edema of vulva :** asin pre-eclampsia
  - **Direct external trauma :**
- ***Degress :***
  - **1st degree :** involve skin & superficial perineal muscles
  - **2nd degree :** levator ani is involved as well but anal sphincter in intact
  - **3rd degree :** external sphincter is invoved –rectal mucosa may be involved also
- ***Complications :***
  - **PPH** from bleeding from lacerations - **infection** of laceration
  - **Patuolous** vaginal introtius - **genital prolapse**
  - **Incontinence** of stool & flatus in complete tears
  - Residul **rectovaginal fistula** - **Dyspareunia** from tender scar
- ***Prevention :***
  - **Proper management of 2nd stage** preventing premature extension
  - **Adequate episitomy** in instrumatal delivery & risk for lacerations

- ***Management :***
  - **Primary sutures** can be done if discovered within **24 hours** – if seen later left 3-6 M after all signs of inflammation disappear
  - **Preoperative care** : purge & daily cleansing enema to empty boel / vaginal douche / non residue diet free of milk / intestinal antiseptics orally for 3 days
  - **Operation** :
    - *Recent 1st or 2nd degree* : sutured I layers (1st levator ani then superficial perineal muscles lastly vagina & skin are sutured all by interrupted sutures)
    - *Recent 3rd degree* : rectal wall is sutured in 2 layers 1st continuous then interrupted without suturing mucosa till apex – then anal spinchter is sutured
    - *Old 3rd degree :* deep horizontal incision to separate vagina & rectum then 2 verticla ones at site of 2 dimples of anal sphincter – then repair as recent 3rd degree – posterior colpo-perineorrhaphy is done . then vainal pack & urinary catheter is put
  - **Post operative care** :
    - Vulva regularly washed by antiseptic 3 time sdaily
    - Continue low residue diet & intestinal antiseptic
    - Antiobiotics for infection – pack removed after 24 hours & catheter
    - On 5th day given oral puratgative solution then daily oral laxative to prevent constipation

Vaginal discharge

- ***Types & causes :***
  - **Leuchorrhea :** excessive white noninfected vaginal discharge either physiological (in puberty – preovulatory – during pregnancy) or pathological (pelvic congestion as fibroids – adnexal mass)
  - **Coloured offensive** : bacterial vaginosis , trichomonas
  - **Mucopurulent** : chronic cervicitis
  - **Purulent offensive** : any infecytion (septic abortion –purperal sepsis – pyometra ..etc)
  - **Blood stained** : atrophic vaginitis – ulcers – cervical erosion –fibriod polyp)
  - **Watery** : intermittent hydrosalpinx – urinary fistla
- ***History :***
  - **Age** of onset – if recurrent and previous antibiotics
  - Vaginal **hygienic** practice
  - **Menstrual** history , sexual history , obstetric history , contraceptive history , medical condition
  - **Symptoms** : character of discharge – burning sensation – itching or pruritis
- ***Signs :***
  - **Vulva** is inspected for vulvitis
  - **vagina & cervix** : inspected for white plaques – strawberry spots – frothy discharge
  - Milking of **urethra** through vagina to deteat gonorrhea
  - **Bimanual** examination for adnexal masses
- ***Investigations :***
  - **Wet mount** preparation & microscopic examination
  - Addition of 10% **KOH** for fishy amine odour of BV
  - Vaginal **swab** & culture
  - **Pap** smear – **biopsy** suscpicious lesions
  - **X-ray** for forign body in young infants
- ***Treatment :***
  - Treatment of cause – proper genital hygiene inculiding douching
  - Proper treatment of 1st attack

الباطل ثعلب ماكر، والحق شاة وادعة، ولولا نصرة الله للحق لما انتصر على الباطل أبداً

أينما وجد المسلم الصحيح وجدت معه أسباب النجاح جميعا

Other works for 5th year :

Lissauer 's extra topics
Clinical pediatrics
obstetric revision

M.Behairy